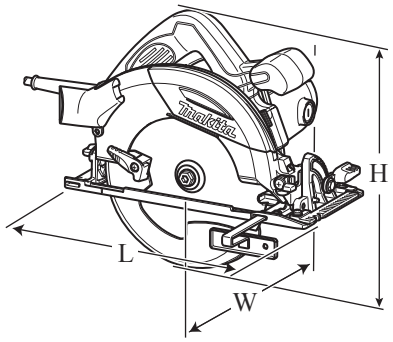
TECHNICAL INFORMATION

Model No. ► HS7100, HS7101

Description ► Circular Saw 190mm (7-1/2")



Dimensions: mm (")	
Length (L)	310 (12-1/4)
Width (W)	246 (9-11/16)
Height (H)	258 (10-1/8)

CONCEPT AND MAIN APPLICATIONS

Models HS7100, HS7101 have been developed as the successor models of the current model 5705R, featuring compact & lightweight design without riving knife.

Other features are:

- New aesthetic design with black blade case and rear cover
- Electronic brake for quick blade stop (for HS7101 only)
- Twin LED job light for easy tracing of cutting line in the dark place (for HS7101 only)

These models are also available with plastic carrying case as "K" models; HS7100K, HS7101K.

► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
110	13	50/60	1,400	680	1,750
220 - 240	6.4	50/60	1,400	640	2,200

Specifications / Model No.		HS7100	HS7101
Size of blade: mm (")	Diameter	190 (7-1/2)	
	Hole diameter	30 (1-3/16)	
No load speed: rpm= min.$^{-1}$		5,500	
Max cutting capacity: mm (")	0 degree	67.0 (2-5/8)	
	45 degrees	48.5 (1-15/16)	
	50 degrees	43.5 (1-11/16)	
Protection against electric shock		Double insulation	
Electric brake		No	Yes
Job light		No	Yes (twin LED)
Power supply cord: m (ft)		European countries: 4.0 (13.1), Australia, Brazil: 2.0 (6.6) Other countries: 2.5 (8.2)	
Weight according to EPTA-Procedure 2003/01*1: kg (lbs)		4.0 (8.8)	4.0 (8.9)

*1: with TCT saw blade, Dust nozzle

► Standard equipment

TCT saw blade 190 1
Hex wrench 1
Guide rule (Rip fence) 1
Dust nozzle 1
Guide rail adapter ..... 1 (for some countries only)

Note: The standard equipment for the tools shown above may vary by country.

► Optional accessories

Saw blades	Position seat sets	Bevel guide set
Guide rail 1400 set	Rubber seat set	Guide rule (Rip fence)
Guide rail 1900 set	Seat set	Clamp set
Guide rail 3000 set	Guide rail adapter	Stopper

Repair

CAUTION: Repair the machine in accordance with “Instruction manual” or “Safety instructions”.

[1] NECESSARY REPAIRING TOOLS

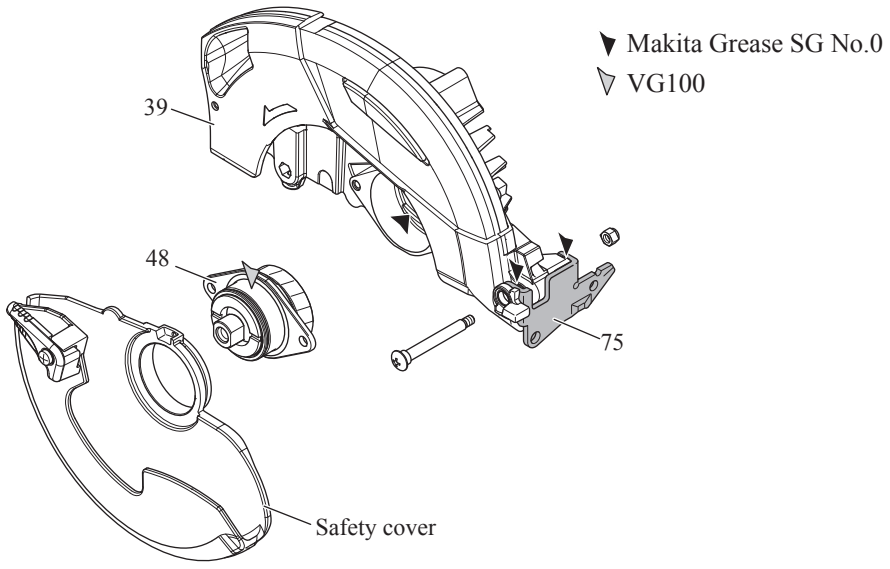
Code No.	Description	Use for
1R003	Retaining ring S pliers ST-2N	Removing/mounting Retaining ring S-42, holding Safety cover
1R032	Bearing setting plate 8.2	Removing Spindle from Helical gear
1R207	45-degree set square	Adjusting accuracy of 45 degrees
1R208	90-degree set square	Adjusting accuracy of 90 degrees
1R217	Ring 22	Supporting Helical gear when removing Spindle
1R228	1/4” Hex shank bit for M4	Disassembling/assembling Rear angular guide
1R269	Bearing extractor	Removing Ball bearing 607ZZ from Spindle
1R280	Round bar for arbor 6-50	Removing Spindle from Helical gear
1R340	Bearing retainer wrench	Removing/mounting Bearing retainer 23-36

[2] LUBRICATION

Apply the following grease/ lubricant to the specific portions to protect parts and product from unusual abrasion.

Item No.	Description	Grease	Portion to lubricate	Amount
39	Blade case	▼	Gear room	approx. 6 g
48	Bearing box	▽	Drum portion where Safety cover pivots	a little
75	Angular guide	▼	Contact surface where (39) Blade case pivots	a little

Fig. 1



Repair

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Base

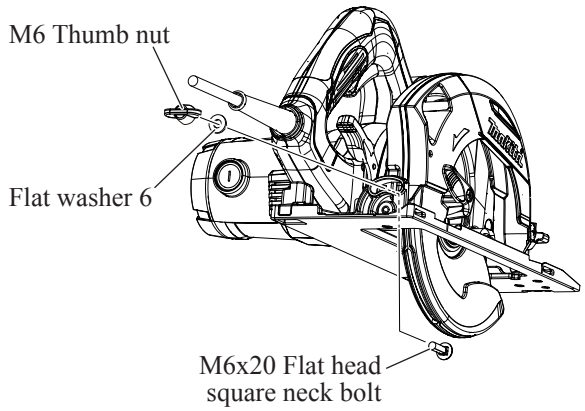
DISASSEMBLING

Set the cutting depth of the machine to maximum, and remove saw blade.
Then remove both Rear angular guide section and Angular guide section from Base. Base can now be replaced. (**Fig. 2**)

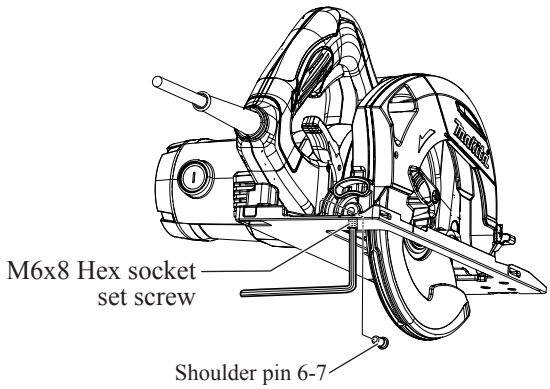
Fig. 2

Rear Angular Guide Section (on the rear of the machine)

1. Unscrew M6 Thumb nut, then remove Flat washer 6 and M6x20 Flat head square neck bolt.

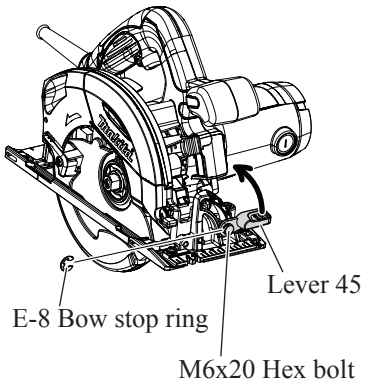


2. Loosen M6x8 Hex socket set crew with Hex wrench, remove Shoulder pin 6-7 that functions as a hinge.

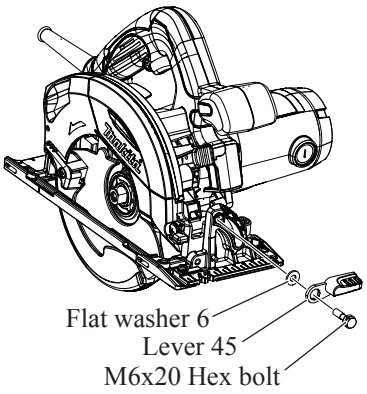


Angular Guide Section (on the front of the machine)

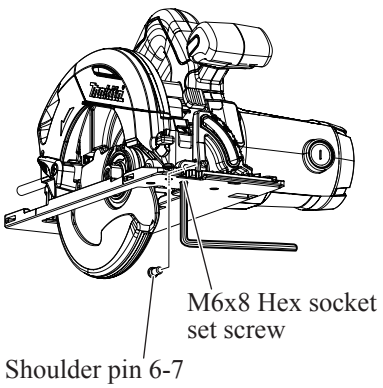
3. Loosen M6x20 Hex bolt using Lever 45, then remove E-8 Bow stop ring with a slotted screwdriver.



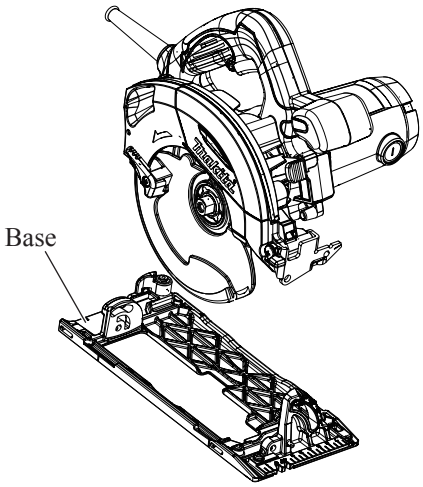
4. Remove M6x20 Hex bolt by using Lever 45 as a tool, then remove Flat washer 6.



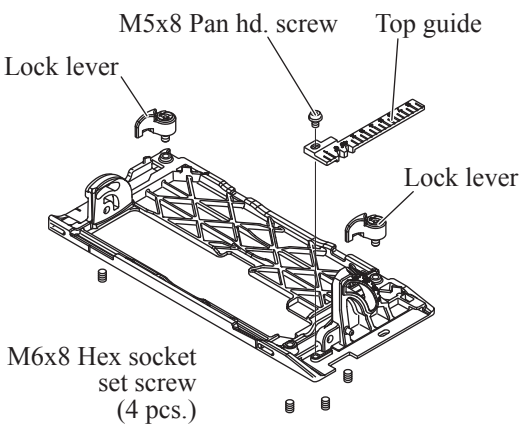
5. Loosen M6x8 Hex socket set screw, then remove Shoulder pin 6-7 that functions as a hinge.



6. Base can now be separated from the machine.



7. Base can be replaced after removing Top guide, Lock levers, and four M6x8 Hex socket set screws.



Repair

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Base

ASSEMBLING

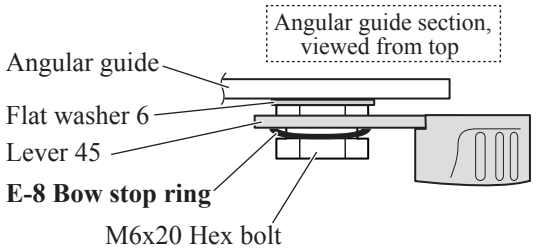
Base can be mounted to the machine by taking the reverse steps of Disassembling.

Note: Follow the important instructions described in **Fig. 2A**.

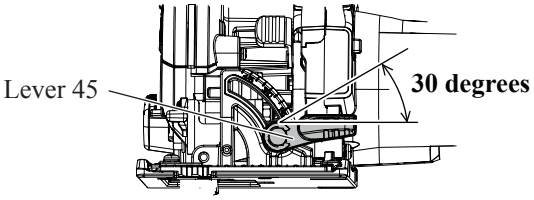
See **Fig. 3** for Assembling and Adjustment of **Lock lever for clamping Guide Rule**.

Fig. 2A

Be sure to mount E-8 Bow stop ring as shown below for securely engaging Lever 45 with M6x20 Hex bolt.



Adjust Lever 45 so that it can be locked in the position shown below when the machine's cutting angle is adjusted to 90 degrees.



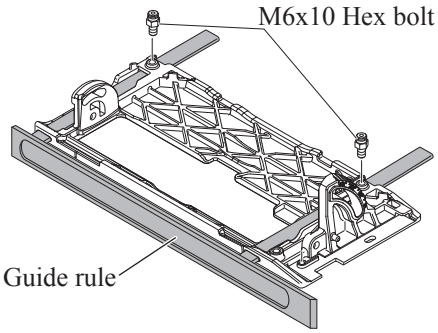
[3] -2. Lock Lever for clamping Guide Rule

ASSEMBLING, ADJUSTMENT

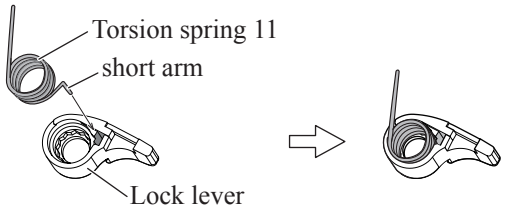
Mount Lock lever to Base and adjust its locking position when Guide rule attaching. (**Fig. 3**)

Fig. 3

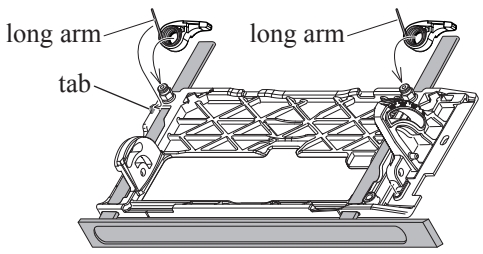
1. Fasten Guide rule to Base with M6x10 Hex bolt.



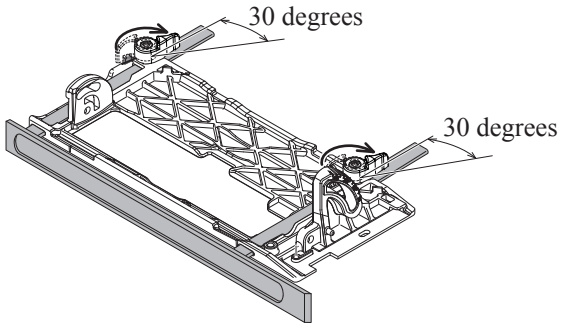
2. Insert Torsion spring 11 into Lock lever with its short arm inserting in the square hole of Lock lever.



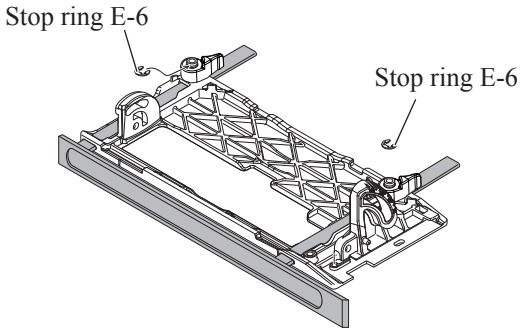
3. Applying the Torsion spring's long arm to the tab of Base, put the Lock lever over M6x10 Hex bolt. But do not push Lock lever down until you engage it with the Hex bolt in the step 5.



4 . Lift up Lock lever so that its upper surface is flush with that of M6x10 Hex bolt, then rotate Lock lever independently. Then adjust the Lock lever so that it can be locked in the position shown below.



5 . Push Lock lever down until it engages with M6x10 Hex bolt, then secure Lock lever with Stop ring E-6.



6. Make sure that:
   1) When Guide rule is clamped, Lock lever stops in the same position as you set in the step 4.
   2) With Guide rule removed, Lock lever returns to its initial position smoothly and exactly from the locking position..

Repair

[3] DISASSEMBLY/ASSEMBLY

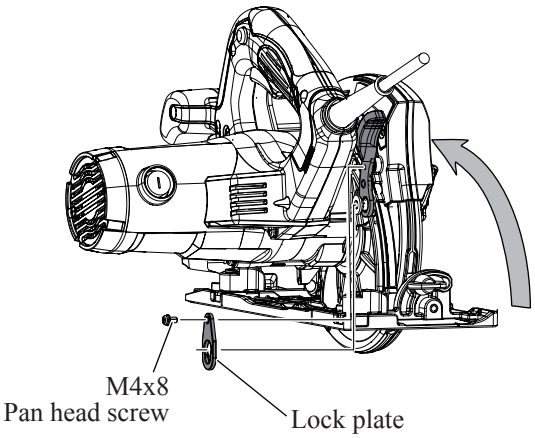
[3] -3. Depth Guide

DISASSEMBLING

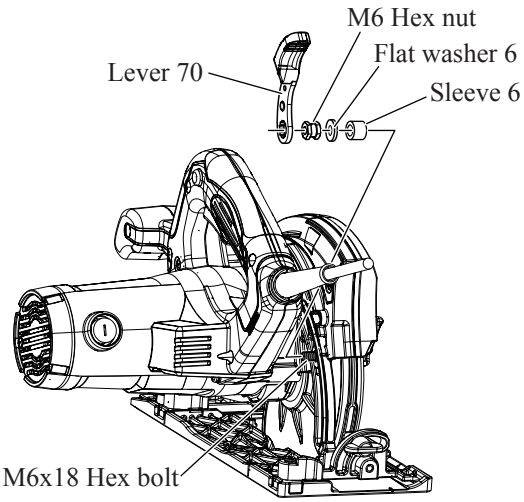
Disassemble Depth guide as described in **Fig. 4**.

Fig. 4

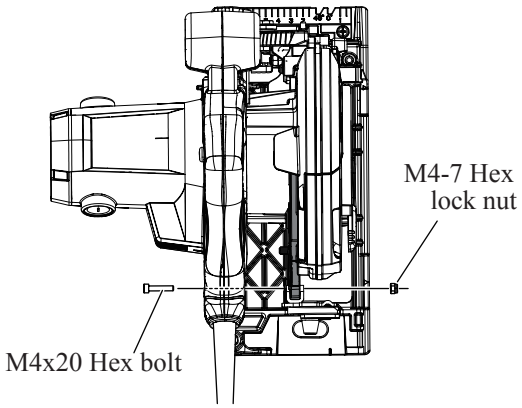
1. Set the cutting depth of the machine to minimum. Remove Lock plate from Lever 70 by unscrewing M4x8 Pan head screw.



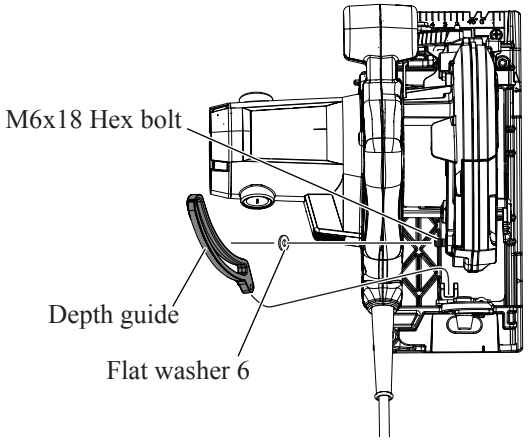
2. From M6x18 Hex bolt, remove Lever 70, M6 Hex nut, Flat washer 6 and Sleeve 6.



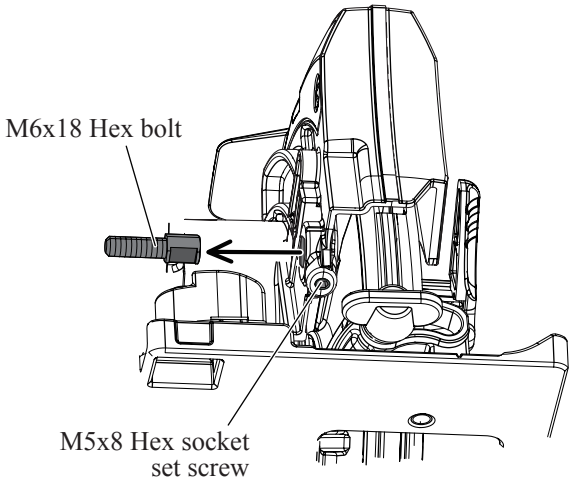
3. Fix M4-7 Hex lock nut with Wrench 7, then remove M4x20 Hex bolt with 1R288.



4. Depth guide and Flat washer 6 on Blade case side can now be removed.



5. M6x18 Hex bolt can now be removed by loosening M5x8 Hex socket set screw a little bit.



Repair

[3] DISASSEMBLY/ASSEMBLY

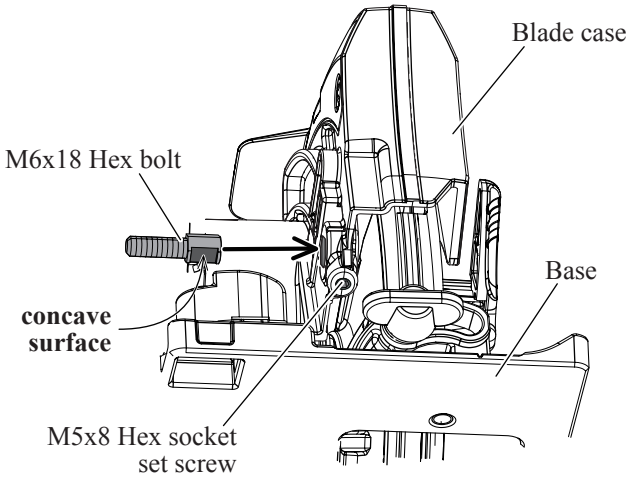
[3] -3. Depth Guide

ASSEMBLING

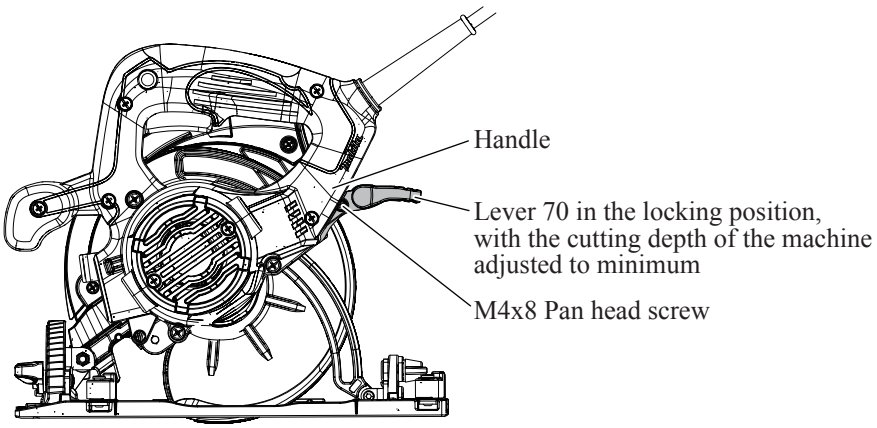
Assemble Depth guide section by taking the reverse step of Disassembling. (**Fig. 4**)
Note: Follow the important instructions described in **Fig. 5**.

Fig. 5

1. M6x18 Hex bolt must be mounted to Blade case so that the concave surface of the bolt head faces M5x8 Hex socket set screw.



2. M4x8 Pan head screw must be seen closest to Handle when Lever 70 is in the locking position with the cutting depth of the machine adjusted to minimum.



Repair

[3] DISASSEMBLY/ASSEMBLY

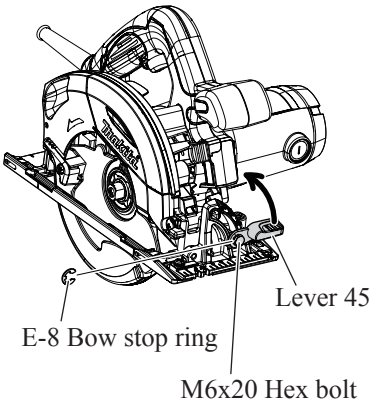
[3] -4. Angular Guide

DISASSEMBLING

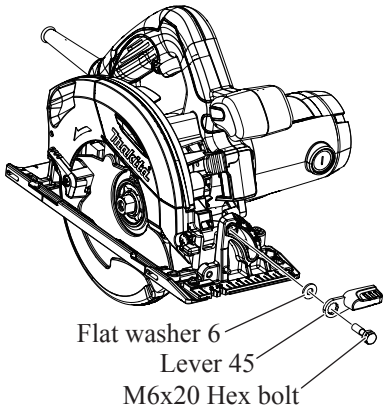
Angular guide can be disassembled as described in **Fig. 6**.

Fig. 6

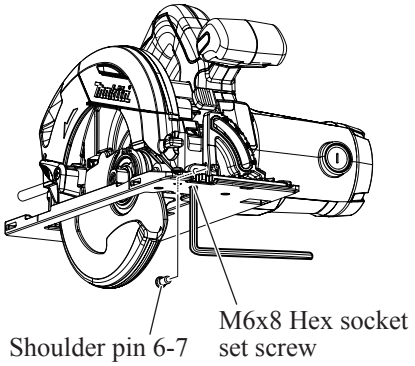
1. Loosen M6x20 Hex bolt with Lever 45, then remove E-8 Bow stop ring.



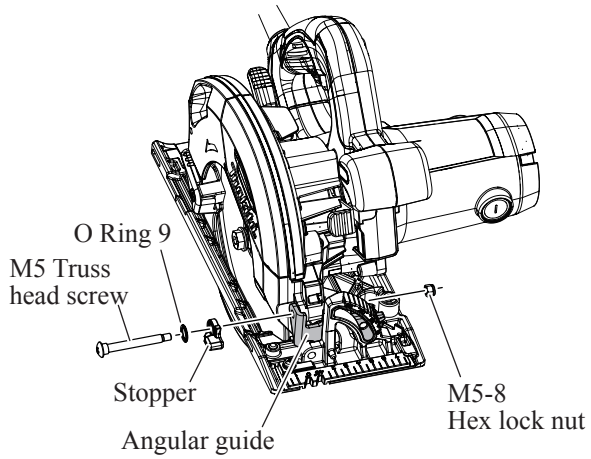
2. Remove M6x20 Hex bolt by using Lever 45 as a tool, then remove Flat washer 6.



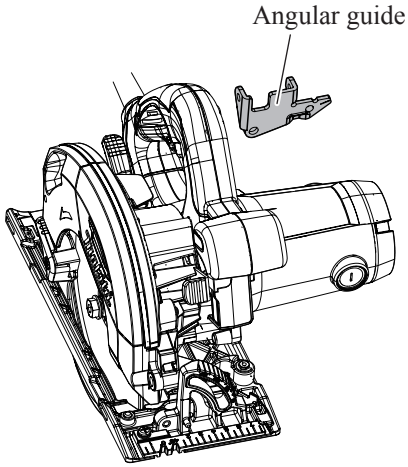
3. Loosen M6x8 Hex socket head set crew, then remove Shoulder pin 6-7 that functions as a hinge.



4. Hold M5-8 Hex lock nut with Wrench 8, then unscrew M5 Truss head screw O ring 9 and Stopper can now be removed.



5. Disassemble Angular guide.



ASSEMBLING

Assemble Angular guide by taking the reverse step of Disassembling. (**Fig. 6**)

Note:

1. E-8 Bow stop ring must be mounted as shown on the **left** in **Fig. 2A**.
2. Adjust Lever 45 as shown on the **right** in **Fig. 2A**.

Repair

[3] DISASSEMBLY/ASSEMBLY

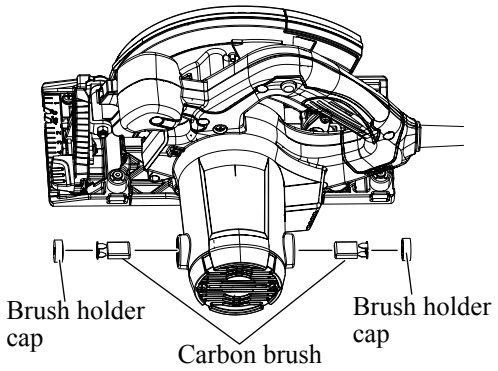
[3] -5. Blade Case, Blade Cover, Safety Cover

DISASSEMBLING

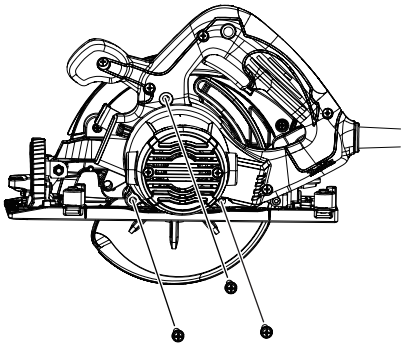
(1) Separate Motor housing and Armature from Blade case section as described in **Fig. 7**.

Fig. 7

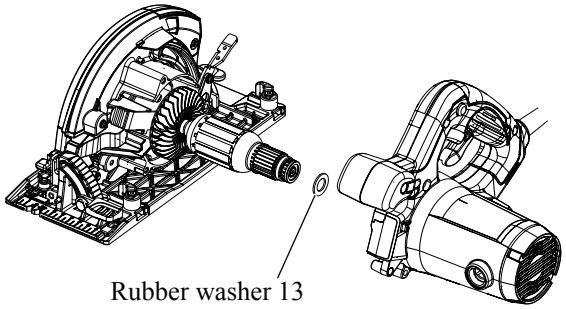
1. Remove Carbon brush.



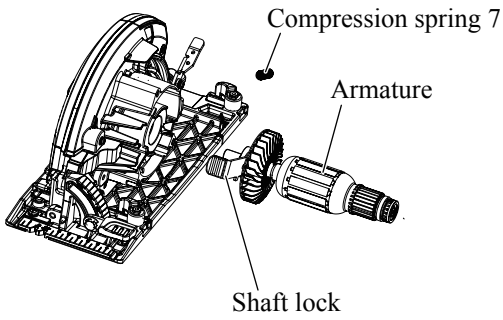
2. Remove three M5x45 Pan head screws.



3. Separate Motor housing from Blade case section.



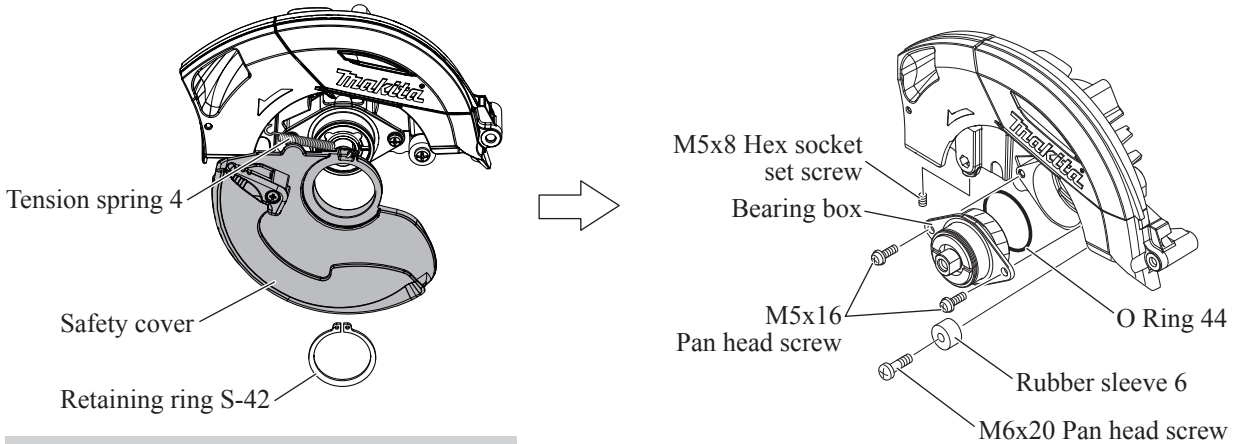
4. Remove Armature together with Shaft lock and Compression spring 7.



Note:
If Rubber washer 13 falls off Motor housing in this step, put it back into Bearing box of Motor housing.

(2) Remove both Angular guide section and Rear angular guide section from Base. (**Fig. 2**)
(3) Remove Depth guide and M6x8 Hex bolt from Blade case. (**Fig. 4**)
(4) Remove Safety cover together with Tension spring 4, Bearing box and other parts from Blade case. (**Fig. 8**)

Fig. 8



Use 1R003 for removing Retaining ring S-42.

Repair

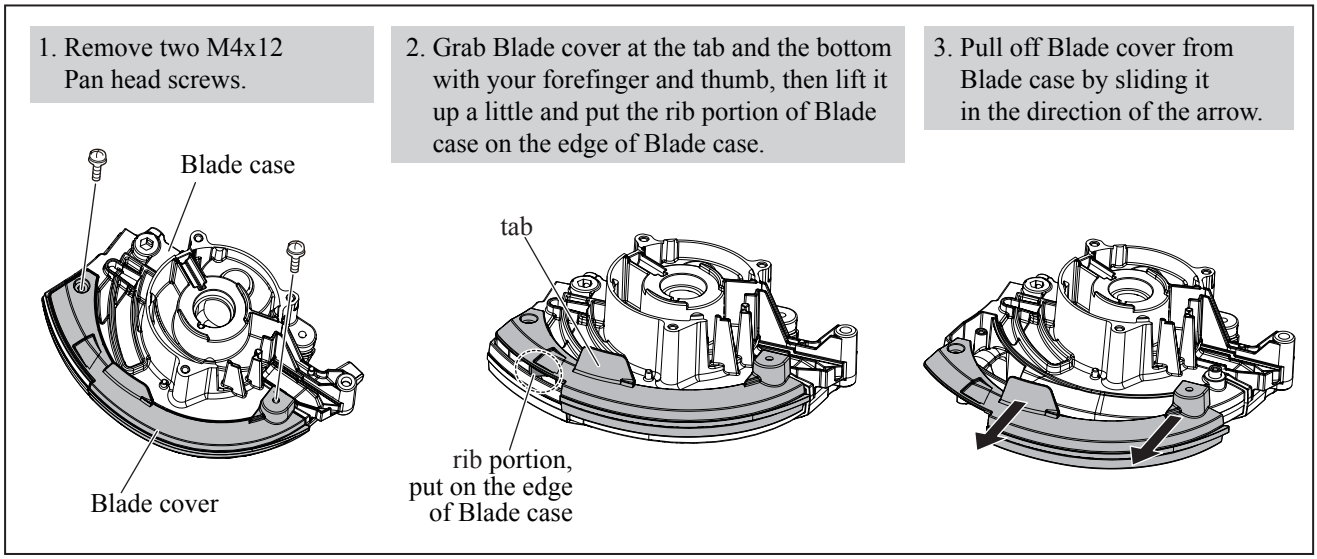
[3] DISASSEMBLY/ASSEMBLY

[3] -5. Blade Case, Blade Cover, Safety Cover

DISASSEMBLING

(5) Remove Blade cover as described in **Fig. 9**.

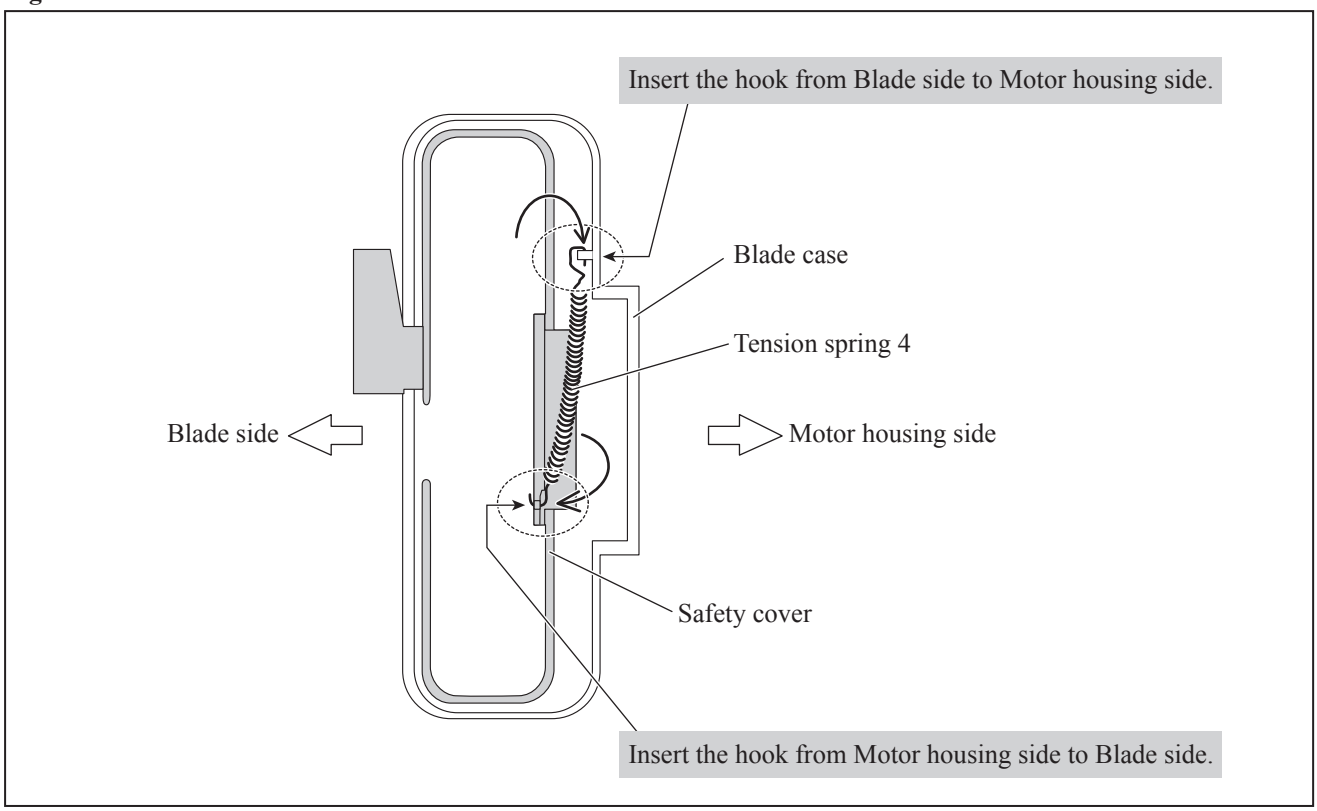
Fig. 9



ASSEMBLING

(1) Mount Bearing box on Blade case. (See the **right** illustration in **Fig. 8**.)
(2) Mount Tension spring 4 on Blade case and Safety cover as described in **Fig. 10**.

Fig. 10



(3) Set Retaining ring S-42 in place with 1R003. (See the **left** illustration in **Fig. 8**)
(4) Take the reverse step of Disassembling. (**Fig. 7**)

Repair

[3] DISASSEMBLY/ASSEMBLY

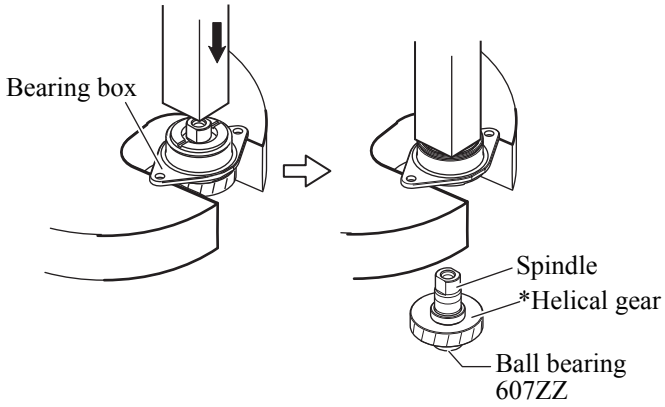
[3] -6. Helical Gear, Ball Bearing 6003DDW

DISASSEMBLING

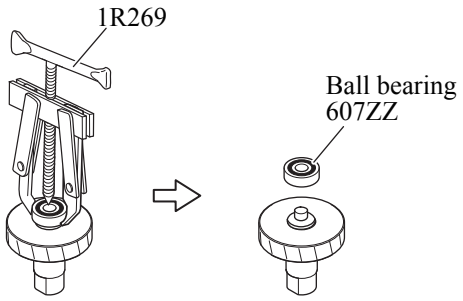
(1) Remove Safety cover, then remove Bearing box from Blade case. (**Fig. 8**)
Then separate Helical gear together with Spindle from Bearing box as described in **Fig. 11**.

Fig. 11

1. Separate Bearing box from Spindle and Helical gear using arbor press as drawn below.



2. Remove Ball bearing 607ZZ with 1R269.

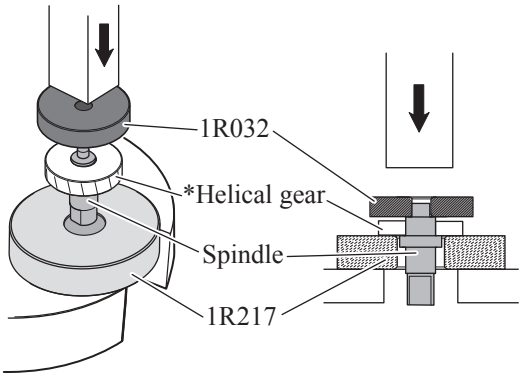


* Helical gear 40 for HS6100, HS6101
* Helical gear 43 for HS7100, HS7101

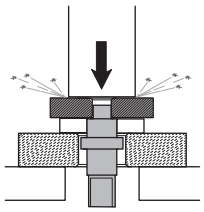
(2) Remove Spindle from Helical gear as described in **Fig. 12**.

Fig. 12

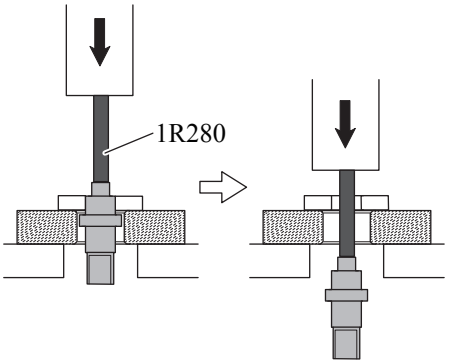
1. Put Helical gear section onto 1R217, then put 1R032 onto Spindle as drawn below.



2. Push Spindle down a little by giving impact to 1R032 using arbor press.



3. Apply 1R280 to Spindle. Spindle can be removed by pushing 1R280 down using arbor press.

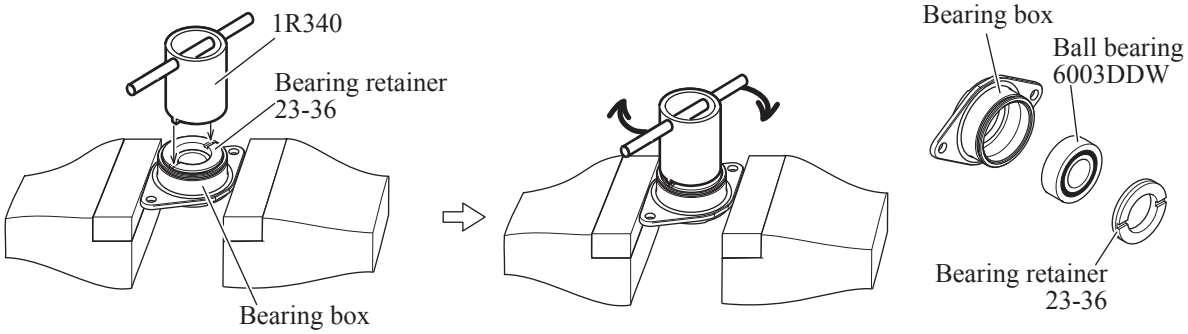


* Helical gear 40 for HS6100, HS6101
* Helical gear 43 for HS7100, HS7101

(3) In the step of **Fig. 11**, Ball bearing 6003DDW still remains in Bearing box.
This Ball bearing can be removed as described in **Fig. 13**.

Fig. 13

Clamp Bearing box in vise. Engage 1R340 with Bearing retainer 23-36, then remove the Bearing retainer from Bearing box by turning 1R340 clockwise. Ball bearing 6003DDW can now be removed from Bearing box.



Repair

[3] DISASSEMBLY/ASSEMBLY

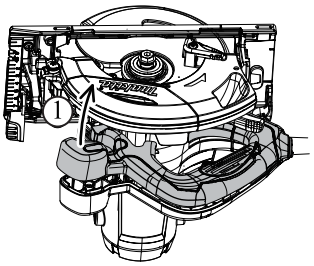
[3] -7. Handle Cover, Electrical Parts in Handle

DISASSEMBLING

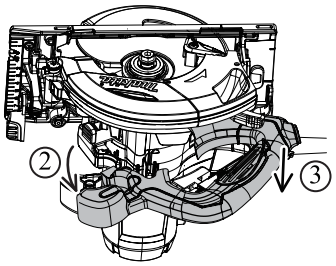
Remove Handle cover from Motor housing as described in **Fig. 14**.
Note: No need to disassemble Blade case or Motor housing.

Fig. 14

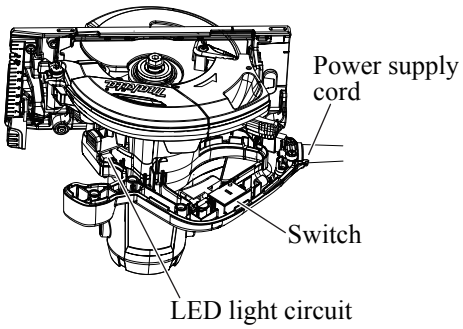
1. Lift up Handle cover in the direction of arrow ①.



2. Turn Handle cover in the direction of arrow ②. Then pull the Handle cover in the direction of arrow ③.



3. Electrical parts (Switch, Power supply cord, LED light circuit, Controller etc.) can now be replaced.



[4] ADJUSTMENT

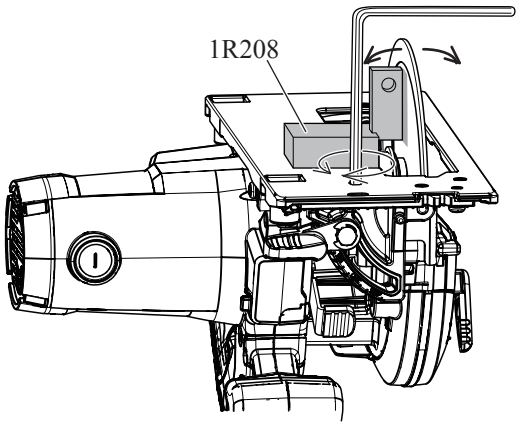
[4]-1 Angle of Saw Blade to Base

(1) Attach Saw blade to the unplugged machine, and set to the cutting depth to maximum.
(2) Adjust the angle of saw blade to Base as described in **Fig. 15**.

Fig. 15

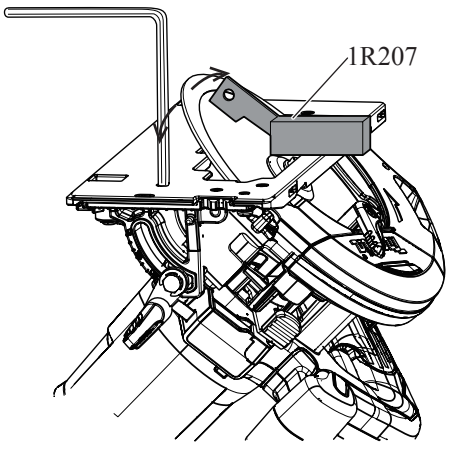
[Adjustment to 90 degrees]

1. Set the cutting depth of the machine to maximum with the bevel angle adjusted to 90 degrees.
2. Tighten Lever 45, Lever 70 and M6 Thumb nut.
3. Open Safety cover fully, then apply 1R208 to the base metal of the saw blade as drawn below, Then adjust for 90 degree accuracy by turning M6x8 Hex socket set screw with hex wrench.



[Adjustment to 45 degrees]

1. Set the cutting depth of the machine to maximum with the bevel angle adjusted to 45 degrees.
2. Tighten Lever 45, Lever 70 and M6 Thumb nut.
3. Open Safety cover fully, then apply 1R207 to the base metal of the saw blade as drawn below, Then adjust for 45 degree accuracy by turning M6x8 Hex socket set screw with hex wrench.



Repair

[4] ADJUSTMENT

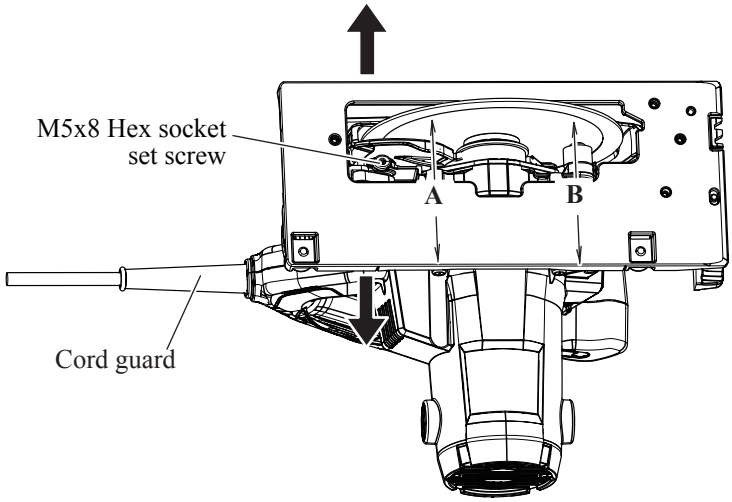
[4]-2 Parallel Adjustment of Base to Saw Blade

(1) Attach saw blade to the unplugged machine, and set the cutting depth of the machine to maximum with the bevel angle adjusted to 90 degrees.

(2) Make parallel adjustment of Base to saw blade as described in **Fig. 16**.

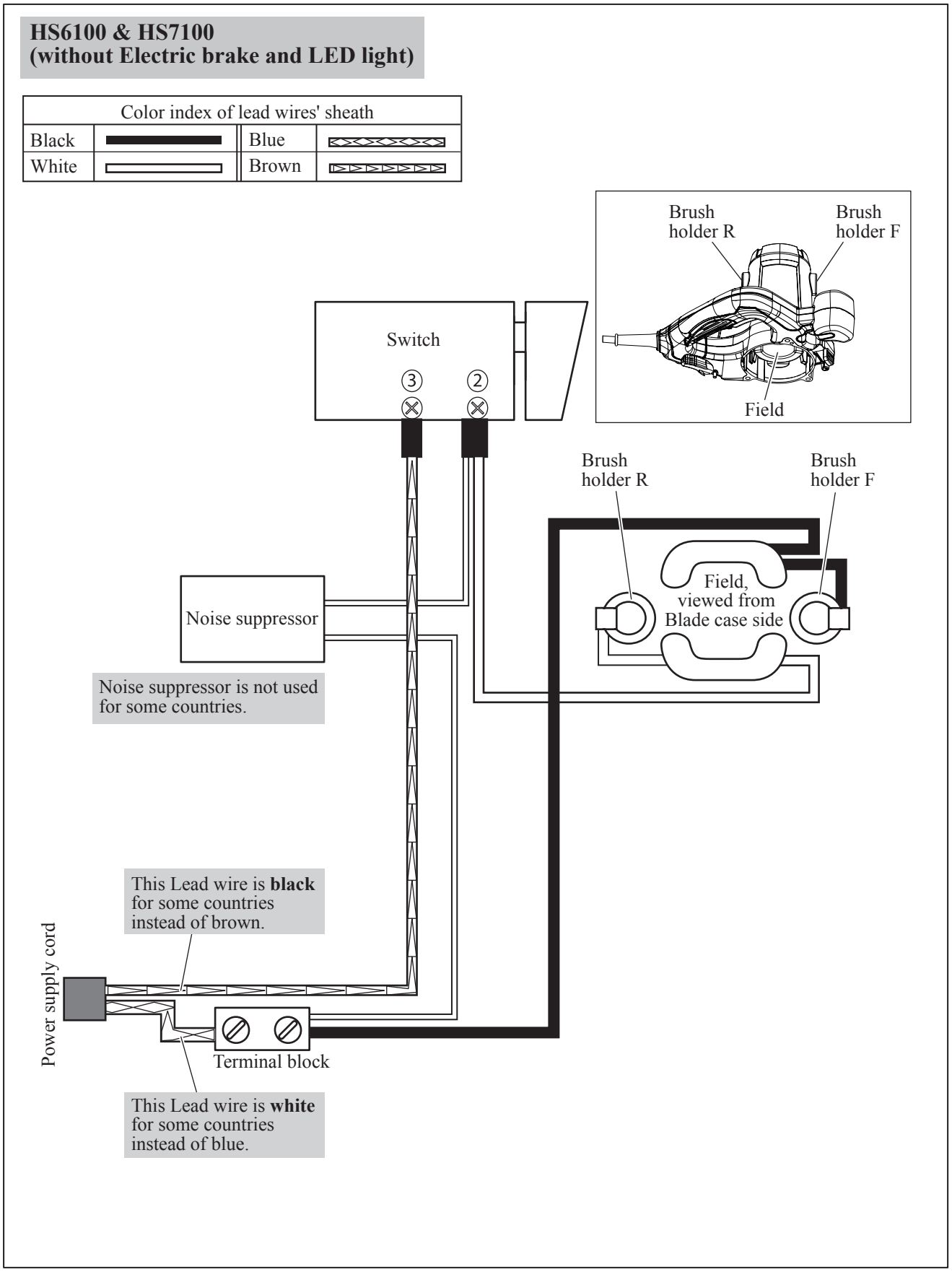
Fig. 16

1. Unlock Base from Blade case at the Cord guard side by loosening M5x8 Hex socket set screw a little.
2. Open Safety cover fully.
3. Move the Cord guard side of Base in the direction of large black arrows until the distance A is equal to B.
4. After the adjustment is finished, tighten M5x8 Hex socket set screw firmly with hex wrench.



Circuit diagram

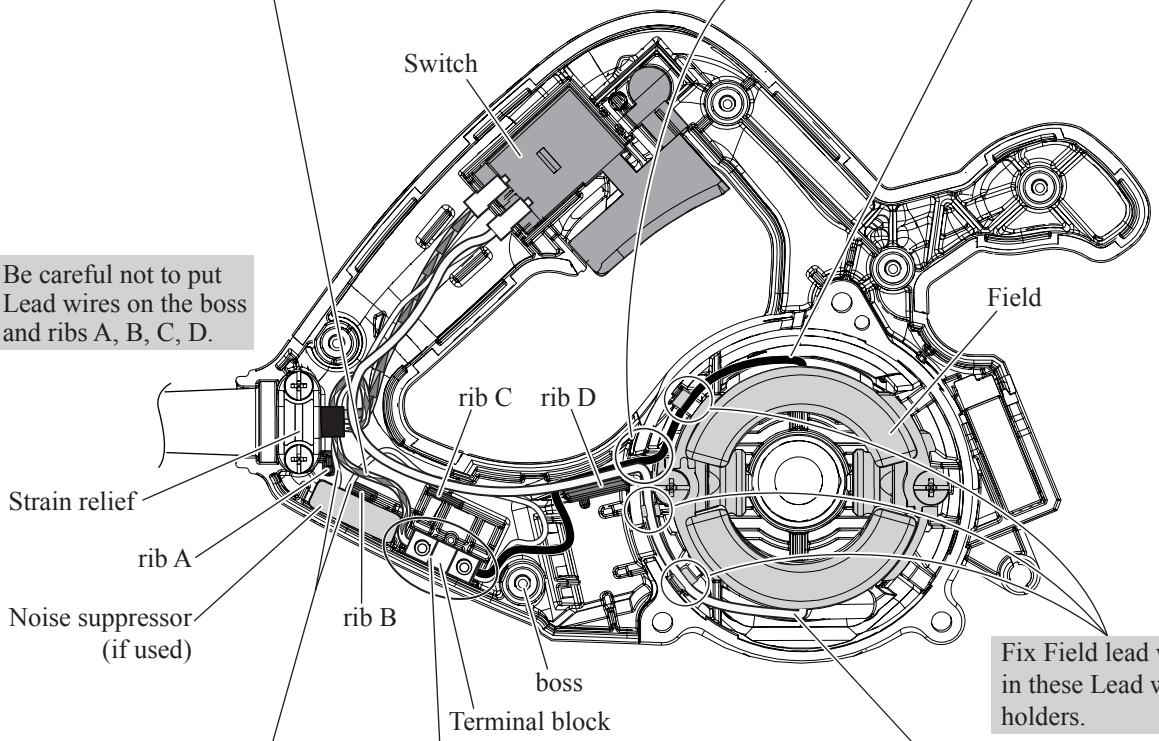
Fig. D-1



Wiring diagram

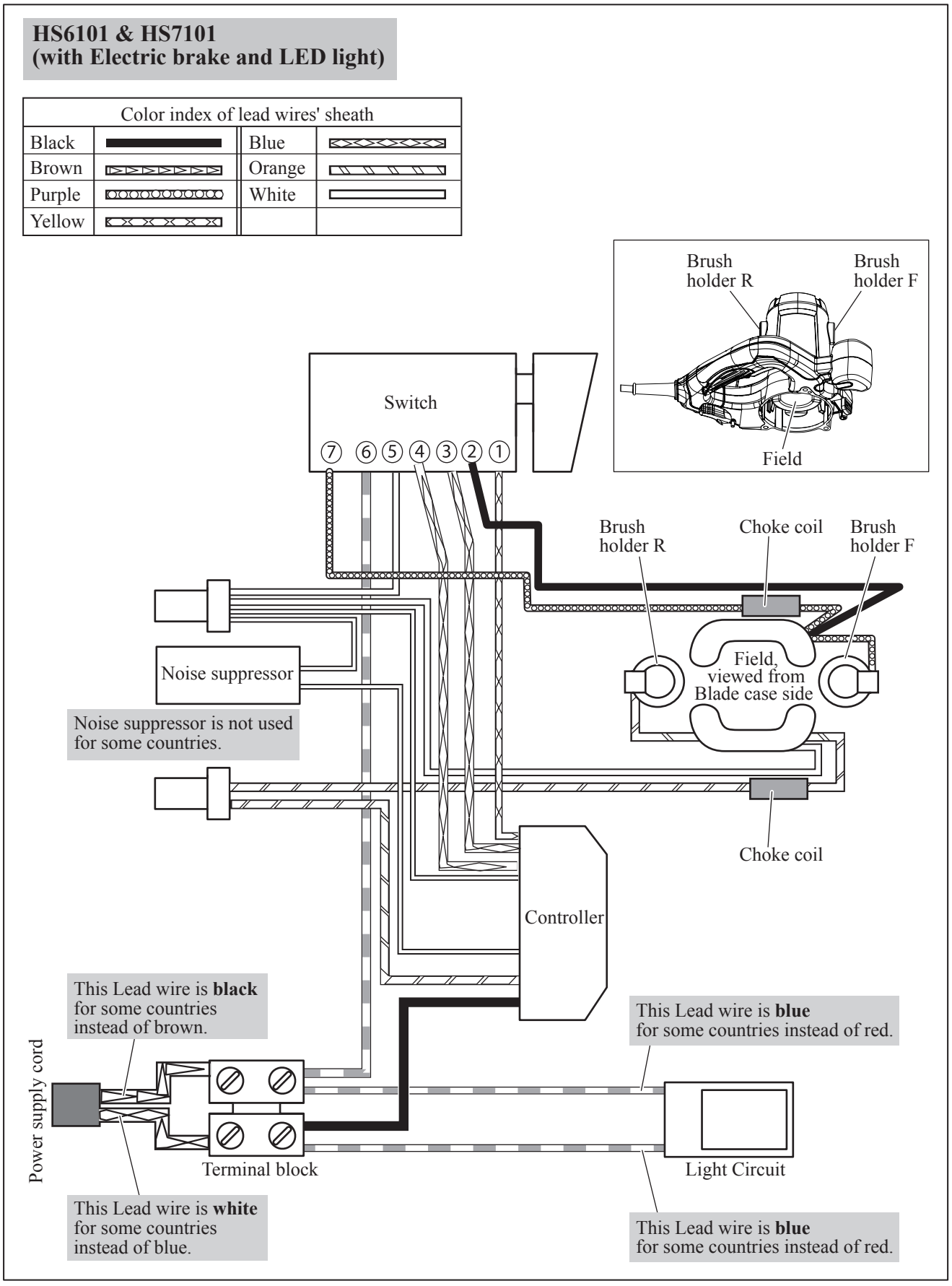
Fig. D-2

HS6100 & HS7100
(without Electric brake and LED light)



Circuit diagram

Fig. D-3



Wiring diagram

Fig. D-4

HS6101 & HS7101
(with Electric brake and LED light)